DOCUMENT RESUME

ED 295 720 JC 880 303

AUTHOR Mussell, Roger; Lucas, John A.
TITLE Follow-Up Study of Former Graduates of the Electronic Program. Volume XVI, No. 7.
INSTITUTION William Rainey Harper Coll., Palatine, Ill. Office of Planning and Research.
PUB DATE 20 Jan 88
NOTE 35p.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *College Graduates; Community Colleges; Education Work Relationship; *Electricians; *Electronics; *Employment Patterns; Graduate Surveys; *Participant Satisfaction; Salaries; Two Year Colleges; *Two Year College Students; Vocational Education; Vocational Followup

ABSTRACT

In summer 1987, a follow-up study of Electronic Program graduates was conducted at William Rainey Harper College (WRHC) to determine their current employment status, to solicit their evaluation of the program, and to identify potential alumni resources for the program. Surveys were mailed to 400 former students who had graduated from the program between 1969 and fall 1986. Study findings, based on a 35.5% response rate, included the following: (1) 91.5% of the graduates were employed full-time, with 90% working in a field at least somewhat related to electronics; (2) the mean full-time salary of the employed respondents was $30,500, which was higher than that of most WRHC career program alumni; (3) when asked to evaluate how frequently material they learned in particular WRHC courses was used on the job, respondents indicated that they occasionally used materials from all of their courses in their work; (4) on the average, graduates felt that they were well prepared by all their electronics courses; and (5) 25% of the respondents volunteered to serve as a resource person for current electronics students or provide some other type of service to the Electronic Program. Detailed study findings and the survey instrument are appended. (MDB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED295720

FOLLOW-UP STUDY OF FORMER GRADUATES OF THE ELECTRONIC PROGRAM

Volume XVI
Number 7
January 20, 1988

Roger Mussell, Coordinator
Electronic Program

John A. Lucas, Director
Office of Planning & Research

IC 880 303

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J. Lucas

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ABSTRACT

THE PURPOSE OF THIS STUDY WAS TO FOLLOW-UP FORMER GRADUATES OF THE ELECTRONIC PROGRAM TO FIND OUT THEIR CURRENT STATUS, TO EVALUATE THE PROGRAM, AND TO IDENTIFY POTENTIAL ALUMNI RESOURCES FOR THE PROGRAM. ALL 400 WHO HAD GRADUATED FROM THE ELECTRONICS PROGRAM FROM 1969 TO THE FALL OF 1986 WERE INCLUDED IN THE STUDY. AFTER THE INITIAL MAILING, A SECOND MAILING AND A REMINDER TELEPHONE CALL, A RESPONSE RATE OF 36 PERCENT WAS ACHIEVED.

RESULTS OF THE SURVEY SHOWED THAT A VERY HIGH PERCENTAGE (91-1/2%) OF THE GRADUATES OF THE ELECTRONIC PROGRAM ARE EMPLOYED FULL TIME AND AMONG THEM, 90 PERCENT ARE WORKING IN A FIELD AT LEAST SOMEWHAT RELATED TO ELECTRONICS. MOREOVER, THEY ARE EARNING A HIGH SALARY (AVERAGE $30,500) WHICH IS HIGHER THAN MOST OTHER HARPER CAREER ALUMNI. THEY ALSO REMAIN IN THE AREA AS 57 PERCENT ARE WORKING IN THE HARPER DISTRICT. OVER HALF OF THESE GRADUATES HAVE CONTINUED THEIR EDUCATION SINCE LEAVING HARPER.

ON THE AVERAGE, COURSE MATERIAL LEARNED AT HARPER IS OCCASIONALLY USED ON THEIR PRESENT JOB AND THESE GRADUATES FEEL THEY WERE WELL PREPARED BY ALL THE COURSES TAKEN IN THE ELECTRONICS PROGRAM. A QUARTER OF THE RESPONDENTS INDICATED THEY WERE WILLING TO VOLUNTEER FOR CERTAIN ACTIVITIES FOR THE ELECTRONICS PROGRAM.

TABLE OF CONTENTS

		Page
I.	PURPOSE.	1
II.	POPULATION SURVEYED.	1
III.	METHODOLOGY.	1
IV.	DISCUSSION OF RESULTS.	1-2
V.	MAJOR CONCLUSIONS.	2
VI.	DETAILED RESULTS	
	A. Present status.	3
	B. Extent to which education has been continued.	3
	C. Relationship of job to major field at Harper College. . . .	3
	D. Geographic location of job.	4
	E. Outside of Illinois locations	4
	F. Annual salary range	4
	G. Major field for those taking some courses	5
	H. Major for those who have achieved a bachelors degree. . . .	5
	I. Major for those who have achieved a bachelors degree, plus.	5
	J. Specific evaluative information about Electronics Program .	6
	K. Degree to which Harper prepared students.	7
	L. Interest among graduates to provide volunteer services. . .	8
	M. Comments.	9-13
	N. Job Titles, Employers, Addresses.	14-20
VII.	APPENDIX	
	- Cover Letter	
	- Survey Instrument	

PURPOSE

The purpose of this study was to follow-up former graduates of the Electronic Program to find out their current status, to evaluate the program and to identify potential alumni resources for the program. The study was requested by the Coordinator of the Electronics Program.

POPULATION SURVEYED

Everyone who graduated with a degree or certificate in Electronics from 1969 to the fall of 1986 was surveyed. a total of 400 former students were identified and after follow-up, the following responses were received:

	N	PCT
Mail Responses	142	35.5
Non-Forwardable	90	22.5
Refused to Answer	1	.25
Never Returned Survey	167	41.75
Total	400	100.0

These former students have been away from Harper for an average of nine years so it is difficult to get a higher response rate.

METHODOLOGY

The survey instrument shown in the appendix was developed jointly by the Coordinator of the Electronics Program and the Office of Planning and Research. Three weeks after the initial mailing of the survey, non-respondents were sent a second mailing. After another three weeks, those still not responding were telephone and reminded to send in their survey form.

DISCUSSION OF RESULTS

Survey results showed that 91-1/2 percent were employed full time which is higher than the 78-1/2 percent figure for all Harper career program alumni. Over half (53-1/2%) have continued their education since leaving Harper and this is higher for all career alumni among whom 46-1/2 percent have continued their education. In fact, 28 percent of the Electronic Program graduates are currently enrolled compared to only ten percent for all career alumni.

Electronic program graduates are less likely to work in jobs identical to their major at Harper than other career alumni but are more likely to be on jobs which are at least somewhat close to their major field at Harper. In fact, 90 percent of the Electronic Program graduates employed are working in fields at least somewhat closely related to Electronics. More than 55 percent of these Electronic Program graduates employed work in the Harper District and only four percent are working downtown in the Loop. The mean full-time salary of those graduates who are employed is over $30,000 which is almost $4,000 higher than other career alumni who have been working a comparable length of time.

These Electronic Program graduates were asked to evaluate how frequently they used, on their jobs, material learned from various courses they took at Harper. The course material they used most was from ELT-203, Electronics II Digital, ELT-110, Introductory Electronics, ELT-111, Electronics I, Resistive, and ELT-206, Electronic Computers. The

DISCUSSION OF RESULTS (continued)

course material they used least was from MTH-208/Fortran, ELT-207/UHF Communication and Reception, and PHY-121 and 122/Introductory Physics I and II. For the most part, graduates occasionally used material from all their courses on their jobs.

These graduates were also asked to rate how well they were prepared in the various courses taken at Harper. The two courses rated the highest with regard to preparedness were MTH-106 and 107, Mathematics I and II. On the average, students felt well prepared in all their courses.

Some 36 students or 25 percent of the respondents volunteered to provide some type of service to the Electronics Program. A total of 59 students or over 40 percent of the respondents made some type of comment about the program. These comments were fairly evenly divided between positive, mixed, suggestions for change and neutral comments.

MAJOR CONCLUSIONS

A very high percentage (91-1/2%) of the graduates of the Electronic Program are employed full time and among them, 90 percent are working in a field at least somewhat related to electronics. Moreover, they are earning a high salary (average $30,500) which is higher than most other Harper career alumni. They also remain in the area as 57 percent are working in the Harper district. Over half of these graduates have continued their education since leaving Harper.

On the average, course material learned at Harper is occasionally used on their present job and these graduates feel they were well prepared by all the courses taken in the Electronics Program. A quarter of the respondents indicated they were willing to volunteer for certain activities for the Electronics Program.

LONG TERM FOLLOW UP OF ELECTRONIC PROGRAM GRADUATES VS. OTHER VOCATIONAL ALUMNI

Present Status	1987 Long Term Follow-up Electronic Program Graduates N	PCT	1985 Long Term Vocational Graduates N	PCT
Employed F/T, Not Enrolled	95	66.9	166	71.3
Employed F/T, Enrolled P/T	32	22.6	17	7.3
Employed F/T, Enrolled F/T	3	2.1	0	0
Enrolled F/T, Employed P/T	1	.7	1	.4
Enrolled F/T, Not Employed	4	2.8	3	1.3
Enrolled P/T, Employed P/T	0	0	1	.4
Employed P/T, Not Enrolled	3	2.1	19	8.2
Enrolled P/T, Not Employed	0	0	2	.9
Armed Forces	0	0	1	.4
Not Enrolled, Unemployed, But Seeking Employment	0	0	4	1.7
Homemaker, Not Employed, Not Enrolled	2	1.4	18	7.7
Not Enrolled, Not Employed For Other Reasons	2	1.4	1	.4
Total	142	100.0	233	100.0
Extent to Which Education Has Been Continued Since Leaving Harper				
Have Taken No College Courses Since Leaving Harper	60	46.5	124	53.4
Have Taken Some Courses But Do Not Have A Bachelors Degree	44	34.1	42	18.1
Achieved A Bachelors Degree	19	14.7	50	21.6
Achieved A Bachelors Degree Plus Some Graduate Courses	6	4.7	8	3.5
Achieved A Masters Degree	0	0	7	3.0
Achieved A Professional Degree	0	0	1	.4
Achieved A Doctorate	0	0	0	0
Total	129	100.0	232	100.0

Relationship Of Job To Major Field At Harper College	Relationship Index				
Identical	3	25	18.7	102	49.8
Closely Related	2	53.5	39.9	39	19.0
Somewhat Related	1	42	31.3	23	11.2
Not Related	0	13.5	10.1	41	20.0
Total		134	100.0	205	100.0
Average Relationship Index		1.67		1.99	

Geographic Location of Job	Location Index	Long Term Follow-up Electronic Program Graduates N	PCT	Long Term Follow-up Vocational Alumni N	PCT
Downtown Chicago	2	5.4	4.0	17	8.3
Outer Fringes of Chicago City Limits	1	7.9	5.9	14	7.0
Northwest Suburban Area	0	75.9	56.7	108	52.6
Other Chicago Area Suburbs	1	25.9	19.3	39	18.8
Within 40-100 Miles of Chicago	3	9.9	7.4	6	3.0
In Illinois More Than 100 Miles of Chicago	4	0	0	1	.5
Outside of Illinois	5	9	6.7	20	9.8
Total		134	100.0	205	100.0
Average Location Index		.89		1.02	

Outside of Illinois Locations for 1987
Electronics Program Follow-up Survey

Location	N
California	2
All Over Midwest	2
Nationwide	1
Florida	1
Utah	1
Colorado	1
Oregon	1
Total	9

Annual Salary Range				
Under $10,000	0	0	0	0
$10,000 - $12,000	2	1.6	4	2.9
$12,000 - $15,000	3	2.4	10	7.2
$15,000 - $20,000	15	12.0	23	16.5
$20,000 - $25,000	28	22.4	45	32.4
$25,000 - $30,000	20	16.0	23	16.6
$30,000 - $35,000	19	15.2	17	12.2
$35,000 - $40,000	18	14.4	9	6.5
$40,000 - $50,000	11	8.8	5	3.6
$50,000 - $60,000	7	5.6	2	1.4
$60,000 - $70,000	2	1.6	1	.7
Over $70,000	0	0	0	0
Total	125	100.0	139	100.0
Median Salary	$28,500		$23,556	
Mean Salary	$30,460		$25,300	
Corrected * Median Salary			$24,709	
Corrected * Mean Salary			$26,538	

*Correction based on change in non-agricultural wage salary index 1985 to 1987

Summary of Those Who Have Continued Their Education Since Leaving Harper

Major Field for Those Taking Some Courses But Have Not Achieved A Bachelors Degree as of Yet

- Electronics - 16
- Electrical Engineering - 4
- EET - 4
- Computer Science - 2
- Management - 2
- Computer Programming
- Undeclared
- CAD-CAM
- Business
- Business Administration
- Liberal Arts
- Digital
- Chemical Engineering
- Bachelor of Gen'l Studies - 4 majors
- None
- Radio/TV
- Speech Comm./Radio/TV/Film
- Electronics/Computer Science
- Processor and Principles Supervision
- Business Management

Major for Those Who Have Achieved A Bachelors Degree

- Electronic Engineering - 10
- Technology
- History
- BGS (GSU)
- I and T
- BS - BA
- Pastoral Studies
- Production Management
- Technical Management
- Journalism

Major for Those Who Have Achieved A Bachelors Degree Plus Some Graduate Work

- BSEE
- BSME, Masters, Eng. Mngt.
- BSEET
- Chemical Engineer and Electronics
- BS (Zoology)
- Economics - Business

Long Term Follow-up of Electronic Program Graduates
Specific Evaluative Information About Electronics Program

Courses Taken in Electronics Program	Number Taking Course	Percent Never Use Course Mat'l	Percent Occasionally Use Course Mat'l	Percent Often Use Course Mat'l	Average Frequency Use of Material Index*
ELT-203 Electronics II, Digital	104	11.5	47.1	41.4	1.30
ELT-110 Introductory Electronics	105	12.4	48.6	39.0	1.27
ELT-111 Electronics I, Resistive	105	14.3	49.5	36.2	1.22
ELT-206 Electronic Computers	77	20.8	40.2	39.0	1.18
ELT-101 Circuits I, Resistive	110	19.1	49.1	31.8	1.13
ELT-204 Electronics II, Adv. Electronics	82	19.5	48.8	31.7	1.12
MTH-106 Mathematics I	104	18.3	53.8	27.9	1.10
MTH-107 Mathematics II	87	17.3	58.6	24.1	1.07
ELT-217 Microprocessor Peripheral Systems	46	30.4	32.6	37.0	1.07
ELT-205 Electronic Instrumentation	28	21.4	50.0	28.6	1.07
ELT-216 Microprocessor Software Applications	65	27.7	43.1	29.2	1.02
ELT-102 Circuits II, Single Time Contact Circuits	85	25.9	48.2	25.9	1.00
ELT-103 Circuits III, Networks	82	25.6	48.8	25.6	1.00
ELT-210 Computer Programming	93	28.0	46.2	25.8	.98
ELT-218 Principles of Microprocessor Systems Design	45	35.6	33.3	31.1	.96
ELT-105 Electromechanical Drafting	94	36.2	39.3	24.5	.88
PHY-102 Technical Physics II, Electricity and Magnetism	55	25.5	63.6	10.9	.85
ELT-215 Electrical Controls and Motors	39	43.6	28.2	28.2	.85
MTH-206 Mathematics III	72	36.1	48.6	15.3	.79
PHY-101 Technical Physics I, Mechanics, Heat and Sound	66	39.4	48.5	12.1	.73
PHY-122 Introductory Physics II	23	47.8	39.1	13.1	.65
PHY-121 Introductory Physics I	24	50.0	37.5	12.5	.63
ELT-207 UHF Communications and Reception	30	60.0	33.3	6.7	.47
MTH-208 Fortran Computer Programming	52	71.2	25.0	3.8	.33
Average of All Courses	70	26.6	46.1	27.3	1.01

*Index: 2 = Often use course material

1 = Occasionally use course material

0 = Never use course material

Degree To Which Harper Prepared Students In This Specific Area

Courses Taken in Electronics Program	Number Taking Course	Percent Prepared Poorly	Percent Prepared Barely Adequately	Percent Prepared Well	Percent Prepared Very Well	Average Preparedness Index*
MTH-107 Mathematics II	83	2.4	6.0	48.2	43.4	2.33
MTH-106 Mathematics I	99	1.0	6.1	53.5	39.4	2.31
ELT-203 Electronics II Digital	99	1.0	8.1	59.6	31.3	2.21
ELT-101 Circuits I, Resistive	110	0	5.5	70.9	23.6	2.18
ELT-111 Electronics I - Resistive	105	.9	3.8	72.4	22.9	2.17
ELT-204 Electronics II - Advanced Electronics	77	1.3	6.5	66.2	26.0	2.17
ELT-110 Introductory Electronics	102	1.0	3.9	73.5	21.6	2.16
ELT-102 Circuits II, Single Time Contact Circuits	86	0	7.0	73.2	19.8	2.13
PHY-102 Technical Physics II Electricity and Magnetism	54	1.8	7.4	66.7	24.1	2.13
ELT-103 Circuits III Networks	82	2.4	6.1	70.8	20.7	2.10
MTH-206 Mathematics III	66	6.1	10.6	53.0	30.3	2.08
ELT-205 Electronic Instrumentation	23	4.3	4.4	73.9	17.4	2.04
ELT-105 Electromechanical Drafting	89	3.4	12.3	61.8	22.5	2.03
ELT-215 Electrical Controls and Motors	31	9.7	3.2	61.3	25.8	2.03
PHY-101 Technical Physics I Mechanics, Heat and Sound	63	4.8	12.7	61.9	20.6	1.98
ELT-206 Electronic Computers	73	2.7	19.2	60.3	17.8	1.93
ELT-216 Micro Processor Peripheral Systems	58	5.2	18.9	55.2	20.7	1.91
MTH-208 Fortran Computer Programming	46	4.4	15.2	65.2	15.2	1.91
PHY-121 Introductory Physics I	21	4.8	9.5	76.2	9.5	1.90
PHY-122 Introductory Physics II	19	5.3	10.5	73.7	10.5	1.89
ELT-207 UHF Communications and Reception	25	8.0	12.0	64.0	16.0	1.88
ELT-210 Computer Programming	93	6.4	18.3	57.0	18.3	1.87
ELT-217 Microprocessor Peripheral Systems	42	4.8	26.2	47.6	21.4	1.86
ELT-218 Principles of Microprocessor Systems Design	40	7.5	20.0	52.5	20.0	1.85
Average of All Courses	66	2.9	9.8	63.1	24.2	2.09

*Preparedness Index: 3 = Prepared Very Well

2 = Prepared Well

1 = Prepared Barely Adequately

0 = Prepared Poorly

Interest Among Graduates in Providing Volunteer Services for the Electronics Program

Volunteer Service	N
- Would be willing to share information about the electronics program with company where the graduate is employed	13
- Serve as a resource person at breakfasts for current electronic program students	8
- Have some contacts for providing part-time work for current electronic program students	4
- Have some contacts for providing cooperative job experiences for current electronic program students	3
- Would do whatever might be needed within graduates schedule	2
- Hire Harper graduates each year	1
- Could provide case studies for refrigeration and air conditioning program students	1
- Help tutor electronics program students each semester	1
- Would speak to high school students	1
- Would provide consulting services to electronics program	1
- Member of advisory committee	1
- Would like to teach part time	1
- Number of different individuals willing to volunteer	36
- Percent of respondents	25

Summary of Comments Listed

Type	N
Positive	12
Negative	5
Mixed	13
Suggestions for Change	18
Neutral	11
Total	59

Comments

The classes I took did not really prepare me for becoming a tech. They just got my foot in the door. Many jobs do not require the basics, they require real life. I think more circuit chasing should be done on real products, i.e., PC's, peripherals and consumer electronics. I spent months on the basics at Harper and almost lost sight of what I was aiming for as a career. However, the quality of the teachers and the facilities were excellent and I enjoyed attending class at Harper. Also, with computers and electronics merging, I think some different course options should be offered. A PC repair course with DOS training and networking.

I was really sorry to hear about Ken Jauch.

It is almost impossible to remember what classes one had fifteen years ago, much less what was taught in those classes. Sorry I couldn't provide more input in that respect.

I found the year stuffed with data and information. Some I will never use, some I use every day. I went back to Elgin Community College for the CADDS classes, which are much more reasonable than at Harper. I could transfer several Harper classes for this ASAS degree.

Your program needs classes on trouble shooting!

Sorry about the small response to sections VII and VIII, but it appears as though the course titles have been changed considerably since I graduated from the program in 1976.

Having attended Bradley University, I have found Harper College to be a very adequate beginning in education for transfer students into Bradley's Engineering Programs.

Much of the training that I received at Harper gave me a foundation to build my electronic knowledge. In my job I do not have to use many of the theories I have learned; however, it was the knowledge of those theories that helped me succeed in my previous position. My success in that position helped me get promoted to the level I am currently at.

The opinion I have gotten from currently enrolled students is that there is a real lack of hands-on-work. I have always felt that the students should all have some soldering experience during their classes. Most cannot solder - A very valuable talent in my opinion.

So sorry to hear of Ken Jauch. He was a beautiful person. The Electronics Division at Harper has suffered a loss that I don't believe could be equaled. And you are OK, too, Roger.

For the degree I have I believe I was trained well for that field; however, for the job field I am in I believe I would have been better off with the Electronic Technology degree. I am now receiving good training in the engineering field at my employment. The company is growing and there are three technicians (no engineers) in the Engineering Department. We are working well together and are just completing the development of an electronic petroleum distribution system. It incorporates a micro processor based console interfaced through fiber optics to a valve controlling junction box to control up to 8 pumps. The experience has been very well and the product will be in production starting January, 1988.

I changed professions in June, 1987, and am no longer involved in electronics. Although the field was not for me I feel Harper did a good job getting me ready for the job I held for 8-1/2 years. I plan to continue my education at Harper in the future, but in a medical profession. I really wish Harper offered classes in Physical Therapy!

Comments (continued)

Good survey, Roger. Keep up the good work!

I have curtailed taking electronics classes to finish my associates degree due to the fact that they are only offered at the Wheeling campus, and at night only. I sure do hope that more sophomore level courses are offered in the day time and at the Harper campus. I will, however, take these classes after I finish all of the basic classes such as physics, English and social sciences. Hopefully, I will see classes back at Harper's main campus and maybe a daytime offering or two.

How about offering a four-year tech program?

Although my full time job is not directly related to the Electronics degree, I feel the degree program is responsible for my ability to move into an area of computers and system programming with a high level of confidence. The degree has also helped me to start doing digital design consulting on the side. I am very sorry to hear about Mr. Jauch.

Good to hear from you, Roger. Sorry to hear about Ken Jauch. Have heard about breakfast get-togethers or whatever.

You must change from Motorola 6800. It is primitive beyond words. Any 16-bit would be of greater help now. The teacher that taught ELT-217 and 218 - I should get my money refunded!

Motorola does not recognize tech degrees from Harper, but they do from DeVry. Suggestion: Student takes two years in Eng. Prog., this has more recognition by Motorola. Note: Engineers are doing tech work and techs are doing work that requires very little education. Also, suggest level of education being taught is equal to industry.

I just received a certificate in Electronics. Harper did not offer a curriculum that I had a strong interest in, therefore, I transferred to Oakton College and enrolled in the Facilities Operation and Engineering Program. However, I was thankful that Harper was in joint agreement with Oakton for this program, because this allowed me to pay "in district" fees.

The development of a job replacement service to help beginning techs get a job in the electronics field.

I am continuing to take courses at Harper. I do not really consider myself an alumni yet with only a certificate. Also, I received a bachelor's degree before I started attending Harper. There was nothing to take in that section.

Technical companies in the area need to be surveyed to see how our program fits into their jobs.

Roger, I am deeply saddened by Ken's death.

I feel that my education at Harper was excellent. Maybe next time that I am in town we can arrange for me to speak to some of the ELT classes. I was very sorry to hear about Mr. Jauch. He is missed by all of us.

Harper was helpful to me. It has a good program, but most important, their instructors were good - in particular, Dr. Bernstein, was the best I ever had.

I entered this program with a hobbyist's interest in electricity/electronics. I greatly regret that I learned nothing about home wiring, TV repair, circuit trouble shooting.

Comments (continued)

The quality of teachers has varied greatly throughout my education at Harper. Half of the teachers are extremely good and the other half is extremely poor.

I had mixed feelings about this program. I was impressed with the theoretical/textbook aspects of the program particularly in the circuit analysis sequence. I was much less impressed with labs in the courses, usually feeling there was insufficient direction. Lab textbooks would be a good idea, describing the significance of the experiment. I would frequently play with a set up or a piece of equipment for several hours, believe I had the correct solution, and find out in the last ten minutes I was wrong with no chance to salvage the experiment. I would have loved to have seen written solutions to the labs, explicitly showing the correct design, oscilloscope settings and displays, etc., after finishing the labs.

I am currently providing technical and management leadership to two engineers, one technician, and five computer operators in the operations group in cellular software support. We manage and operate 150 work stations and I am the primary network architect. I debug hardware problems and do hardware and software installation. I switched to a software minor during my 3rd and 4th years at NIU. I have primarily done software since then, but electronics remains a hobby.

I would add a class to teach how to trouble shoot using schematics. The class needs to have prerequisites of the circuit analysis and electronic sequence courses.

The AS degree in electronics at Harper College gives a student a good solid foundation to get started in the field of electronics. But the electronics field does not acknowledge the two-year AS degree very highly. There was a numerous amount of people with 4-year bachelor degrees fighting for entry-level tech positions at most of the major companies.

It would be nice if a course was offered or one included actual component trouble shooting and circuit trouble shooting - How to check a transistor, what should you expect to measure between B and E or E and C - How to determine if a diode has to be taken out of circuit or if it can be checked in circuit, what should the values be - How to measure a capacitor and what will you see on ohmmeter, etc. Most of the guys I know at Harper that are taking courses in electronics want to be technicians. It is nice to know the theory on how it works but they should also know how to find out if it does not work.

Howdy Roger! Glad to see this come out! Take care.

1- The micro processing class should be designed to utilize an assembly rather the D-5 kits. The machine language op codes should be taught but only as a means to know what to expect when using a debugger.
2- The mechanical drawing class should incorporate the CAD system as this will be more useful in the job world.

More experience on analyzing circuits in greater detail.

The first semester load of 17 hours was very stressful, too much. Also I could not relate the mathematics to the electrical circuits.

Several major manufacturers - Dec, Wang - prefer field engineers who are entry level since their training is so extensive - can start at the lower salary and groom someone to their philosophy.

It has been a long time to try to remember course specifics. Harper has provided me with a good general electronics education.

Comments (continued)

I did not complete the electronics technology program at Harper.

After being in Computer Electronics for 4 years there are several courses in your program that I would change to benefit your students:

1- Eliminate Fortran and Tech Basic. I never use Fortran and probably never will. Considering most of your graduates will end up in the personal computer field, they will need to know some Basic to run the machines.
2- Courses were all centered around 6800 MPV. Need to apply concepts to other processors such as Z-80 and 8086 as well to obtain generalization rather than specification.
3- Need to expand to advanced subjects such as Dynamic Memory, DMA, and Memory Mapping.

Please feel free to contact me if you would like me to further explain my comments.

I was forced to go to a different college because Harper does not offer a weekend or external program. To continue my electronics I have gone to CIE, as there was no other choice. I work in the service sector and must travel about three days a week out of town. Harper serves 18 years olds very well, too bad for the rest of us.

Your full-time staff for the most part was very competent and had the ability to teach and express themselves well. However, your part-time instructors leave a lot to be desired, with the exception of Phil Freidman, ELT-102, he was very good. I also feel that more time was required for lab. Much more stress on lab and test equipment are extremely necessary. I simultaneously went to Triton College and felt they had a very good balance of theory and lab work. They had a full-time staff that matched yours and a part-time staff which I felt was just as good as the full-time staff.

The program at Harper is fine, but help is needed between math, electronics, computer science, etc. My Fortran teacher did not have any idea that the digital program required Fortran. I also wish more help towards a bachelor's degree was available to students early on in the program from teacher or the department.

The education has proven to be well worth the investment but I cannot say that I am happy working the in the field. I am planning on going back to get my bachelor's degree in some other field. However, the electronics job is going to help pay for it. Thanks for everything. Sorry about Mr. Jauch!

I think you should make a two-year transfer program to transfer students in the major of Electronic Engineering Technology.

Could have used more practice with op-amp theory. Also, more work negative switching, i.e., PNP transistors switching various negative voltages, reverse biased diodes, etc.

In retrospect, knowing what I do now, I could have used more education on programming languages like "C" and "Pascal" than "Fortran" and peripheral interfaces like "RS-232" and "SCSI". I also think a decision should be made sooner as to whether a student would like to specialize in digital or analog circuitry and concentrate primarily on that choice.

ELT-203 was the best class taught at Harper. I use that knowledge daily. Suggestion: More work with flip-flops, multiplexers, shift registers, and buffers. Also, go into video circuits more - Dot clock, RAS, CAS, MUXO, MUXI, etc. Every time I have to troubleshoot a video board, I wish I had a greater understanding of video circuits in general.

Comments (continued)

Advise adding UNIC/C and Pascal to Fortran. Exposure to word processing, IBM/PC family and MacIntosh PCs. All labs use IBM PCs (XT or AT with hard disc). I use IBM 370 Fortran for Ionosphere analysis. Systems engineers often use various applications programs, do little programming. Some advanced labs starting to use math CAD software. I am in international products, in HF-SSB/RTTY - a very special field, but was systems engineer and senior international field engineer all over the Middle East. I'd be glad to drop over and chat about such experiences and how to grow from bench tech to traveling junior engineer.

An independent study course in those not commonly offered such as UHF communication would be desirable for A and B students and they could use this as an elective. Feel that the courses I did take have prepared me extremely well.

Recommend a basic course in electronics while in high school so freshman collegiates are not frustrated by new terms, theories, and so on. Perhaps credit could be granted for this course and used as an elective toward their degree and for certificate (one credit hour). Also it is very difficult to go through the electronics program working full time. Some type of arrangement needs to be made but I do not know the answer - Night school, Saturdays, other classes, courses offered more, etc.

I feel there should be more interaction between Harper students and faculty with the real business world. Field trips, guest speakers, etc., would be very beneficial for any electronics program. All in all, I am happy with the Harper faculty, but feel more can be done to make the programs more attractive to new and present students.

In my current job I use very little of the subjects that were listed. The greatest thing that I feel I learned were to stop and put in "my thinking time" before I proceed with a project. The program at the time I took it seemed not only set up to teach electronics but to teach the student to think for which I feel it did a good job. Thanks.

In ELT Tech, raise math/physics requirements, calculus and PHY-121, 122, or PHY-201, 202. Better drafting than ELT-105. Should require CAD course.

Sorry to hear about Ken, he was a very good teacher.

I transferred to Harper from Oakton thinking that Harper had a better electronics program. I was not disappointed!

I like Harper College a lot - it helped me out and I am planning on coming back to take more classes some time soon.

I am still in the process of completing my associate degree at Harper in the evenings.

Never in the electronics program did we deal with complete circuits of radios. It would have been more interesting trouble shooting circuits, looking at the current design of amplifiers, receivers, power supplies, etc. Building small circuits on the bench is too theoretical. Students need more hands on, real world situation.

Please pass my condolences to the Jauch family. Ken was one heck of a nice guy, and one of my favorite instructors.

Job Title, Employer, Address

Customer Engineer
Field Service Tech
Wang Labs
Melvin Drive
Northbrook, Ill.

Electronics Tech
Motorola
Schaumburg, Ill.

Sales Manager
Electro Assemblies
425 Huehl, Building 17
Northbrook, Ill.

Maintenance Supervisor
Holy Family Hospital
River Road
Des Plaines, Ill.

Chief Engineer
Hydraulics & Engine Applications
Dresser Industries
E. Sunnyside Avenue
Libertyville, Ill.

Sales Manager
Micro-Tex
2400 West Central Road
Hoffman Estates, Ill.

Senior Manufacturing Tech
Motorola - AIEG
Schaumburg, Ill.

Operations Manager
Laboratory Technologies, Inc.
1517 South Wright Boulevard
Schaumburg, Ill.

Factory - Soldering and Assembling
Motorola
Arlington Heights, Ill.

Programmer/Analyst
SEI Corporation
Two North Riverside Plaza
Chicago, Illinois

Cabin Service
United Air Lines
O'Hare Airport
Chicago, Illinois

Customer Service
Unisys
8600 W. Bryn Mawr
Chicago
Illinois

Senior EE, Electrodynamics
1200 Hicks Road
Rolling Meadows, Ill.

Project Engineer
Sub Con Manufacturing Corporation
201 Berg Street
Algonquin, Ill.

Engineering Assistant
Underwriters Laboratories
333 Pfingsten Road
Northbrook, Ill.

Customer Engineer Computer Service
Hewlett Packard
5201 Tollview Road
Rolling Meadows
Illinois

Broadcast Service Engineer
Panasonic Broadcast Systems Company
424 E. Algonquin Road
Arlington Heights, Ill.

Engineering Tech
Dytel Corporation
Schaumburg, Ill.

Field Repair Service
L and L X-Ray Service
912 West Morse Avenue
Schaumburg, Ill.

Service Tech
Motorola
Arlington Heights, Ill.

Electronic Engineering Tech
ESCO Mfg. Inc.
131 Burbank Road
Oldsmar, Florida

Engineering Tech
Motorola
Schaumburg
Illinois

Job Title, Employer, Address (continued)

Massage Therapist
Tranquillity
123 Main Street
Barrington, Illinois

Warehouse Worker
West Coast Cycle
1300 Mark Street
Elk Grove Village, Illinois

Sales Representative
G and O Thermal Supply
5435 Northwest Highway
Chicago, Illinois

Electronic Tech II
Motorola, Inc.
2553 North Edgington
Franklin Park, Illinois

Electronics Instructor
Harper College
Algonquin and Roselle Roads
Palatine, Illinois

Field Service Tech, Sr.
Motorola
1320 North Plum Grove Road
Schaumburg, Illinois

Test System Engineer
Zenith Microcircuits Facility
1815 Arthur Street
Elk Grove Village, Illinois

Engineering Assistant
Computer Department
R. R. No. 1
Marseilles

System Support Tech
Boise Cascade
Engineering Tech
Rich, Inc.
11533 Acorn Street
Franklin Park, Illinois

Senior Engineering Assistant
Underwriters Labs, Inc.
333 Pfingsten Road
Northbrook, Illinois

Assistant Ballast Designer
Advance Transformer
2950 North Western Avenue
Chicago, Illinois

Analyzer
Motorola
Dundee/Shure Roads
Arlington Heights, Illinois

Manufacturing Engineer
Barber-Colman
1354 Clifford Avenue
Loves Park

Technical Support Analyst
CNA Insurance
CNA Plaza
Chicago, Illinois

Manager of Production
I. P. M.
201 West Oakton
Des Plaines, Illinois

Engineering Sales Manager
U.S. Instrument Rental
1618 Colonial Parkway
Inverness, Illinois

Electronics Tech
Coordinated Business Systems
1621 Carboy
Arlington Heights, Ill.

Product Engineer
Eaton Corporation, Controls Division
191 East North Avenue
Carol Stream, Illinois

Technical Group Leader
Motorola
Quality Inspection
Motorola, Inc.
2553 N. Edgington
Franklin Park, Illinois

Electronics Tech
Northrop DSD
600 Hicks Road
Rolling Meadows, Illinois

Job Title, Employer, Address (continued)

Director of Operations
Joseph J. Freed and Assoc., Inc.
304 East Rand
Arlington Heights, Ill.

Sr. Hardware/Software Engineer
Matrix Instruments, Inc.
2525 Maricopa Street
Torrance, California

Engineering Tech Assistant
Northrop
600 South Hicks
Rolling Meadows, Ill.

Technical Report Writer
Elite Electronic Engr. Company
1516 Centre Circle
Downers Grove, Illinois

Research Chemist
DeSoto, Inc.
1700 S. Mt. Prospect Road
Des Plaines, Ill.

Engineering Group Leader
Motorola, Inc.
1501 West Shure Drive
Arlington Heights, Ill.

Sr. Electronics Tech
Northrop DSD
600 N. Hicks Road
Rolling Meadows, Ill.

District Tech Support
Grumman System Support
1336 Basswood
Schaumburg, Ill.

Lab Associate
USI Chemicals
3100 Golf Road
Rolling Meadows, Ill.

Tester and Analyzer
Motorola
Algonquin Road
Schaumburg, Ill.

Bio Medical Tech
Humana Hospital
1555 N. Barrington Road
Hoffman Estates, Ill.

Septic Service and Repair
Ron's Septic Service
Five Hillview Drive
Barrington, Ill.

Regional Sales Manager
Kay-Ray, Inc.
390 Holbrook Drive
Wheeling, Ill.

Electronic Tech
Motorola
1303 E. Algonquin Road
Schaumburg, Ill.

ATE Section Group Leader
Electrodynamics
1200 Hicks Road
Rolling Meadows, Ill.

Product Manager
Kay-Ray, Inc.
390 Holbrook Drive
Wheeling, Ill.

Tech I
Hewlett Packard Company
5201 Tollview Drive
Rolling Meadows, Ill.

Quality Control Tech
Motorola
E. Algonquin Road
Schaumburg, Ill.

Nat'l. Maintenance Center Manager
Xerox
P. O. Box 267
Barrington, Ill.

Field Tech/Environmental
Waste Management
3001 Butterfield Road
Oak Brook, Ill.

Electrical Engineer
Recon/Optical CAI
550 West Northwest Highway
Barrington, Ill.

Contract Administrator
Northrop Corporation, DSD
600 Hicks Road
Rolling Meadows, Ill.

BEST COPY AVAILABLE

Job Title, Employer, Address (continued)

Building Maintenance
TWP H.S. District 214
799 W. Kensington
Mt. Prospect, Ill.

President
Van Bladel Improvement Company
1627 North Vail
Arlington Heights, Ill.

Manager Sales Engineering
Steiner Electric
1250 Touhy Avenue
Elk Grove Village, Ill.

Communication Tech II
Motorola, Inc.
1301 E. Algonquin Road
Schaumburg, Ill.

Electronic Service Tech
Spartanics, Ltd.
3605 Edison Place
Rolling Meadows, Ill.

Vice President of General Service
Arlington Federal S and L
25 E. Campbell
Arlington Heights, Ill.

Sales
Philips Medical
1300 Norwood
Itasca, Ill.

Electronic Tech
Motorola, Inc.
East Algonquin Road
Schaumburg, Ill.

System Implementation Specialist
Motorola Data Systems Service
North Basswood Road
Schaumburg, Ill.

Electronic Tech
Thomas Engineering
575 West Central Road
Hoffman Estates, Ill.

Electronics Specialist
General Exhibits and Displays
4625 West Lawrence Avenue
Chicago, Illinois

Customer Service Engineer
Xerox Corporation
55 West Monroe
Chicago, Ill.

Audio/Video Installation Engineer
Roscor Corporation
1061 Feehanville Drive
Mt. Prospect, Ill.

Senior Service Tech
Kay-Ray, Inc.
390 Holbrook Drive
Wheeling, Ill.

Engineering Assoc.
Underwriters Laboratories
333 Pfingsten Road
Northbrook, Ill.

Clerical/Technical
Olson Temporary
1699 Woodfield
Schaumburg, Ill.

Consulting Engineer
Eaton Controls
191 East North Avenue
Carol Stream, Ill.

Engineering Tech
Motorola
4000 Commercial Drive
Northbrook, Ill.

Field/Applications Engineer
Cadnetix Corporation
1933 North Meacham
Schaumburg, Ill.

Postal Carrier
United States Postal Service
Schaumburg
Illinois

Record Center
Union Oil Company of California
532 South Hicks Road
Palatine, Ill.

Machine Maintenance
Deluxe Check Printers, Inc.
855 Foster Avenue
Bensenville, Ill.

Job Title, Employer, Address (continued)

R and D Tech/Field Engineer
Spartanics, Ltd.
3605 Edison Place
Rolling Meadows, Ill.

Engineering Tech
Motorola
1309 E. Algonquin Road
Schaumburg, Ill.

Comm. Tech, B
Motorola
1501 West Shore Drive
Arlington Heights, Ill.

Electronics Technician
Northrop Corporation
600 Hicks Road
Rolling Meadows, Ill.

Technical Writing Supervisor
Honeywell
1500 West Dundee
Arlington Heights, Ill.

Machine Tool Repairman
Sargent Welch Scientific Company
7300 North Linder
Skokie, Ill.

Mail Clerk
VA Lakeside Medical Center
333 East Huron
Chicago, Ill.

Field Engineer/Computer Tech
Grumman Systems Support
1336 Basswood, Suite F
Schaumburg, Ill.

Repair Engineer B
ADP
160 N. Eisenhower Lane
Lombard, Illinois

National Service Manager
Gambro, Inc.
600 Knightsbridge Parkway
Lincolnshire, Ill.

Software Engineer
Sun Electric
One Sun Parkway
Crystal Lake, Ill.

Senior Design Engineer
Oak Switch Systems
100 South Main Street
Crystal Lake, Illinois

TV and Systems Engineer
Harper College
Algonquin Road
Palatine, Ill.

Field Service Engineer
Philips Medical Systems
Shelton
Connecticut

Engineering Technical Assistant
Northrop
600 Hicks Road
Rolling Meadows, Ill.

Grounds Coordinator
Willow Creek Community Church
67 E. Algonquin Road
South Barrington, Ill.

Repair Tech
Telemed
2345 Pembrook Avenue
Hoffman Estates, Ill.

Field Engineer
Digital Equipment Corporation
5600 Apollo Drive
Rolling Meadows, Ill.

Sr. Engr. Assoc./Systems Engr.
Zenith Electronics Corporation
1000 Milwaukee
Glenview, Ill.

Senior Specialist
Wiss, Janney, Elstner, Assoc.
330 Pfingsten Road
Northbrook, Ill.

ELT Tech
McData
Broomfield
Colorado

Assistant Regional Service Manager

Consultant
Self-Employed

Job Title, Employer, Address (continued)

Technician
EDM, Inc.
1047 East State Parkway
Schaumburg, Ill.

Machine Maintenance
Deluxe Check Printers, Inc.
855 Foster Avenue
Bensenville, Ill.

Customer Assurance Representative
Rodgers Organ Company
1300 North at 25th Avenue
Hillsboro, Oregon

Production Launch Coordinator
Motorola
1299 E. Algonquin Road
Schaumburg, Ill.

Engineering Associate
A T and T Network Systems
2600 Warrenville Road
Lisle, Ill.

Radio Engineering Supervisor
NBC
Merchandise Mart
Chicago, Ill.

Service Representative
Post Business Systems
9440 Foster Avenue
Chicago, Ill.

Laboratory Tech
Huygen Corporation
159 Pepper Road
Barrington, Ill.

Sales Manager
B. B. and Associates
P. O. Box 628
Hoffman Estates, Illinois

Electrician
CMC
10050 Roosevelt Road
Westchester, Ill.

QA Engineer
Northern Telecom, Inc.
6201 Oakton Street
Morton Grove, Ill.

Engineering Assistant
Underwriters Labs, Inc.
333 Pfingsten
Northbrook, Ill.

Hi-Frequency Tech Resource Manager
Motorola
1301 East Algonquin
Schaumburg, Ill.

Auto Mechanic
Rudy's Amoco
4801 North Canfield
Norridge, Ill.

Process Control Engineer
Ryco Graphics
Wheeling
Illinois

Manufacturing Engineer
Bio-Imaging Research, Inc.
426 Barclay Boulevard
Lincolnshire, Ill.

Quality Engineer
Tricor Systems, Inc.
400 River Ridge Drive
Elgin, Ill.

Regional Manager Technical Support
Schweber Electronics
904 Cambridge Drive
Elk Grove Village, Ill.

Quality Electronic Tech
Motorola
2553 Edgington
Franklin Park, Ill.

Applications Engineer
Iomega Corporation
1821 Walden Office Square
Schaumburg, Ill.

Electronic Tech
Nuclear Data
Golf and Meacham Roads
Schaumburg, Ill.

Customer Service Engineer
Xerox Corporation
935 Flair Drive
El Monte, California

Job Title, Employer, Address (continued)

Owner
Joe's Automotive
468 North Grove
Elgin
Illinois

Production Engr. Supervisor and
Foreman of Fabrication
LPI Ltd., Partner
2155 Delaney Road
Gurnee, Illinois

APPENDIX

- Cover Letter
- Survey Instrument

William Rainey Harper College
Algonquin and Roselle Roads
Palatine, Illinois 60067
312-397-3000

Summer 1987

Dear Electronics Program Graduate:

We need your help since we are trying to determine where the students of electronics are, what they are doing, and their evaluation of Harper in order for Harper College to properly evaluate itself and continue to improve quality of service to its students.

To that end, we would appreciate your response to the enclosed survey. Any information you supply will be kept strictly confidential among appropriate college personnel. The number in the right-hand corner of the survey enables us to take your name off the mailing list when your completed response is received. This saves us the cost of unnecessary second mailings and you the bother of receiving a follow-up telephone call.

A sad note goes with this survey. Ken Jauch was killed May 21, 1987, in the crash of the plane he built. All of us here are saddened by his passing. Ken was enjoying his lifelong dream.

We will appreciate your response to this survey and a self-addressed stamped envelope is enclosed for your convenience.

Very truly yours,

Roger Mussell

Roger Mussell, Coordinator
Electronics Technology
Technology, Mathematics and
Physical Science Division

jc
Enclosure

HARPER COLLEGE

FORMER STUDENT OF ELECTRONICS FOLLOW-UP QUESTIONNAIRE

Please give a permanent address where you can always be reached.

_____

_____

_____

_____

_____

This number identifies you and when we receive your completed survey enables us to remove your name from the mailing list so you will not be bothered with our 2nd mailing of this survey or follow-up telephone call.

Read the following items carefully and for each place a check (✓) on the line beside the most appropriate alternative. Mark only one alternative per item unless otherwise stated.

I. What is your present status?

_____ 1. I am employed full time but am not enrolled in college.
_____ 2. I am employed full time and am enrolled in college part time.
_____ 3. I am employed full time and am enrolled in college full time.
_____ 4. I am enrolled in college full time and am employed part time.
_____ 5. I am enrolled in college full time but am not employed.
_____ 6. I am enrolled in college part time and employed part time.
_____ 7. I am employed part time but am not enrolled in college.
_____ 8. I am enrolled in college part time but am not employed.
_____ 9. I am in the Armed Forces.
_____ 10. I am unemployed and not enrolled in college but seeking employment.
_____ 11. I am a homemaker, not employed, nor enrolled in college.
_____ 12. I am not employed nor enrolled in college for some other reasons such as illness or in transition, etc.

II. How far have you continued your education since leaving Harper? Check (✓) one.

_____ 1. I have taken no college courses since leaving Harper.
_____ 2. I have taken some college courses but do not have a bachelor's degree. Major_____
_____ 3. I have achieved a bachelor's degree. Major_____
_____ 4. I have achieved a bachelor's degree plus some graduate courses. Major_____
_____ 5. I have achieved a master's degree. Major_____
_____ 6. I have achieved a professional degree. Major_____
_____ 7. I have achieved the doctorate. Major_____

III. If employed: Job Title - _____

Employer - _____

Address - _____

_____

IV. How related is your present job to your major field and what you prepared for at Harper?

_____ 1. They are identical
_____ 2. They are closely related
_____ 3. They are somewhat related
_____ 4. They are not related

V. In what geographic area do you work?

_____ 1. Downtown Chicago
_____ 2. Outer fringes of Chicago - city limits
_____ 3. Northwestern Suburban area (Barrington, Hoffman Estates, Schaumburg, Palatine, Rolling Meadows, Arlington Heights, Mt. Prospect Prospect Heights, Wheeling, Buffalo Grove, Elk Grove
_____ 4. Other Chicago area suburbs
_____ 5. Within 40 to 100 miles of Chicago
_____ 6. In Illinois more than 100 miles from Chicago
_____ 7. Outside of Illinois (Specify)_____
_____
_____

VI. What is your annual salary range? Answer only if employed full time.

_____ 1. Under $3,328 per year or under $1.60 per hour
_____ 2. $ 3,328 - $ 4,159 per year or $ 1.60 - $ 1.99 per hour
_____ 3. $ 4,160 - $ 4,999 per year or $ 2.00 - $ 2.39 per hour
_____ 4. $ 5,000 - $ 6,999 per year or $ 2.40 - $ 3.36 per hour
_____ 5. $ 7,000 - $ 8,999 per year or $ 3.37 - $ 4.32 per hour
_____ 6. $ 9,000 - $ 9,999 per year or $ 4.33 - $ 4.80 per hour
_____ 7. $10,000 - $11,999 per year or $ 4.80 - $ 5.76 per hour
_____ 8. $12,000 - $14,999 per year or $ 5.77 - $ 7.20 per hour
_____ 9. $15,000 - $19,999 per year or $ 7.21 - $ 9.61 per hour
_____ 10. $20,000 - $24,999 per year or $ 9.62 - $12.02 per hour
_____ 11. $25,000 - $29,999 per year or $12.03 - $14.42 per hour
_____ 12. $30,000 - $34,999 per year or $14.43 - $16.83 per hour
_____ 13. $35,000 - $39,999 per year or $16.84 - $19.23 per hour
_____ 14. $40,000 - $49,999 per year or $19.24 - $24.03 per hour
_____ 15. $50,000 - $59,999 per year or $24.04 - $28.84 per hour
_____ 16. $60,000 - $69,999 per year or $28.85 - $33.65 per hour
_____ 17. $70,000 per year and over or $33.66 per hour and over

VII. ELECTRONIC SKILLS -- For the courses you remembe
how taught.

A. Circuit Analysis Sequence

1- ELT-101 - Circuits I, Resistive
2- ELT-102 - Circuits II, Single Time Contact Circuits
3- ELT-103 - Circuits III, Networks

B. Electronics Sequence

1- ELT-110 - Introductory Electronics
2- ELT-111 - Electronics I, Resistive
3- ELT-204 - Electronics II, Advanced Electronics

C. Digital Sequence

1- ELT-203 - Electronics II, Digital
2- ELT-206 - Electronic Computers
3- ELT-210 - Computer Programming
4- ELT-216 - Microprocessor Software Applications
5- ELT-217 - Microprocessor Peripheral Systems
6- ELT-218 - Principles of Microprocessor Systems Design

D. Drafting

1- ELT-105 - Electro-Mechanical Drafting

E. Technical Elective Courses

1- ELT-215 - Electrical Controls and Motors
2- ELT-207 - UHF Communications and Reception
3- ELT-205 - Electronic Instrumentation

r taking, mark your opinion as to use of knowledge and

Frequency this area is practiced on current job. Check (✓) one column for each area.			Degree to which Harper prepared you for this area. Check (✓) one column for each area listed.			
Never	Occasionally	Often	Poorly	Barely Adequately	Well	Very Well

VIII. TECHNICAL SUPPORT SEQUENCE

A. Mathematics Sequence

1- Math-106 - Mathematics I
2- Math-107 - Mathematics II
3- Math-206 - Mathematics III
4- Math-208 - FORTRAN Computer Programming

B. Physics Sequence

1- PHY-101 - Technical Physics I
Mechanics, Heat and Sound
2- PHY-102 - Technical Physics II
Electricity and Magnetism
3- PHY-121 - Introductory Physics I
4- PHY-122 - Introductory Physics II

IX. The Electronics Program is in need of some volun
in which you would be willing to help.

_____ A. Serve as a resource person at breakfas

_____ B. Have some contacts for providing part-

_____ C. Have some contacts for providing co-op

_____ D. Would be willing to share information
services) with the company where I am

_____ E. Other services I could provide (specif

_____

_____

_____

_____

_____

_____

Frequency this area is practiced on current job. Check (✓) one column for each area.			Degree to which Harper prepared you for this area. Check (✓) one column for each area listed.			
Never	Occasionally	Often	Poorly	Barely Adequately	Well	Very Well

teer help from its former alumni. Please check (✓) those areas

ts for current electronics students.

time work for current electronics students.

job experiences for current electronics students.

about the electronics program (its offerings and employed.

y)

X. Please list the names and addresses of any gradu
about - this will help us keep an updated list o

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

-5-

XI. Comments: _____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR RESPONSE TO THIS SURVEY!

ate of the Harper Electronics Program that you know
f Electronics Alumni.

OPERATIONAL STAFF:

Janice Cook, Secretarial
Linda Pones, - Mailing, Tabulation
Jean Schneider, Linda Goers - Telephoning

ERIC Clearinghouse for
Junior Colleges AUG 19 1988